

Serial No.: 09/921,406  
Art Unit: 1642

### CLAIM AMENDMENTS

Please amend the present application as indicated hereafter, using ~~strikethrough effects~~ or double brackets [[ ]] for deleted matter and underline effects for added matter.

1. (Currently Amended) A method of diagnosing an aggressive form of ~~cancer~~ malignant melanoma, the method comprising the steps of:
- providing a test genetic sample from a test sample tumor;
  - measuring *Wnt5a* expression in the test genetic sample;
  - analyzing expression of *Wnt5a* by statistical methods, wherein the statistical methods comprise comparing increased expression of *Wnt5a* in the test genetic sample to the gene expression profile of *Wnt5a* from a cluster of pair-matched tumor samples,
  - wherein increased expression of *Wnt5a* in the test sample compared to *Wnt5a* expression in the cluster of pair-matched tumor samples having less than about 3.5% invasive ability indicates the second tumor is aggressive.

~~2-3.~~ (Canceled)

- 2 ~~4.~~ (Previously Presented) A method of diagnosing an aggressive form of malignant melanoma, the method comprising the steps of:
- measuring *Wnt5a* expression in a test tumor;
  - analyzing expression of *Wnt5a* in the test tumor by statistical methods, wherein the statistical methods comprise comparing increased expression of *Wnt5a* in the test tumor to the gene expression profile of *Wnt5a* from a cluster of pair-matched tumor samples,
  - wherein increased expression of *Wnt5a* in the test tumor compared to *Wnt5a* expression in the cluster of pair-matched tumor samples having non-detectable or no vasculogenic mimicry indicates the test tumor is aggressive; and
  - selecting a first treatment regimen for an individual with the test tumor if the test tumor is aggressive and a second treatment regimen if the test tumor is non-aggressive, wherein the first and second treatment regimens are not the same.

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5-25. (Canceled)

3 26. (Currently Amended) A method of diagnosing an aggressive form of cancer malignant melanoma, the method comprising the steps of:

measuring *Wnt5a* expression in a test sample tumor;

analyzing expression of *Wnt5a* in the test sample tumor by statistical methods, wherein the statistical methods comprise comparing increased expression of *Wnt5a* in the test sample tumor to the gene expression profile of *Wnt5a* from a cluster of pair-matched tumor samples, wherein increased expression of *Wnt5a* in the test sample compared to *Wnt5a* expression in the cluster of pair-matched tumor sample having a cell motility of less than about 110.7  $\mu\text{m}$  per day indicates the test tumor is aggressive.

27. (Canceled)

4 28. (Currently Amended) A method of diagnosing an aggressive form of cancer malignant melanoma, the method comprising the steps of:

providing a genetic sample from a test sample of a tumor;

analyzing expression of *Wnt5a* in the test sample of the tumor compared to a *Wnt5a* gene expression profile from a cluster of pair-matched tumor samples, wherein increased expression of *Wnt5a* in the test sample compared to a tumor in the gene expression profile having a particular phenotype indicates that the tumor of the test sample is aggressive.

29. (Canceled)

5 30. (Previously Presented) The method of claim 28, wherein the phenotype is chosen from at least one of: reduced cell motility, reduced invasive ability, and non-detectable or no vasculogenic mimicry.

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- 6 31. (Previously Presented) The method of claim <sup>4</sup>28, wherein analyzing comprises comparing expression of *Wnt5a* in the test sample of the tumor to a *Wnt5a* gene expression profile from a cluster of pair-matched tumor samples, wherein increased *Wnt5a* expression in the test sample relative to a tumor in the gene expression profile having less than about 3.5% invasive ability indicates the tumor of the test sample is aggressive.
- 7 32. (Previously Presented) The method of claim <sup>4</sup>28, wherein analyzing comprises comparing expression of *Wnt5a* in the test sample of the tumor to a *Wnt5a* gene expression profile from a cluster of pair-matched tumor samples, wherein increased *Wnt5a* expression in the test sample relative to a tumor in the gene expression profile having non-detectable or no vasculogenic mimicry indicates the tumor of the test sample is aggressive.
- 8 33. (Previously Presented) The method of claim <sup>4</sup>28, wherein analyzing comprises comparing expression of *Wnt5a* in the test sample of the tumor to a *Wnt5a* gene expression profile from a cluster of pair-matched tumor samples, wherein increased *Wnt5a* expression in the test sample relative to a tumor in the gene expression profile having a cell motility of less than about 110.7  $\mu\text{m}$  per day indicates the tumor of the test sample is aggressive.